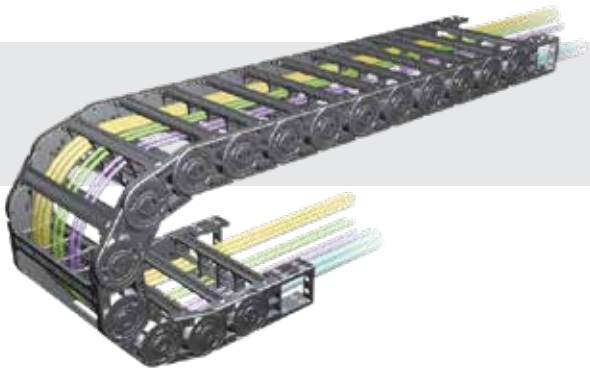


ST-N Series

Shift Cable Chain - Normal type

RoHS CE Ex

Ordering Information

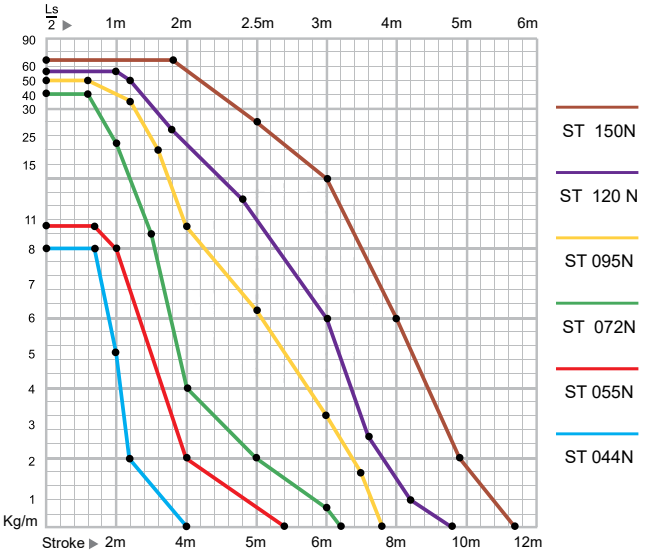
ST 044 N . 100 . R120

① ② ③

Specifications

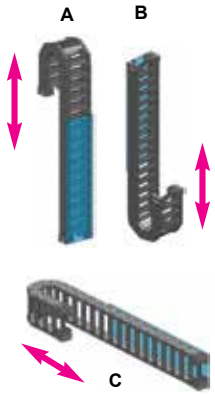
Material	Polyamide with reinforced glass fiber: UL94-HB
Noise Range	40dB
Speed	3m/s
Acceleration	10m/s²
Temperature	-30°C~+130°C
Special Production	ESD, UV
Certificate	CE, ATEX(Ex), RoHS

Unsupported Length



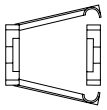
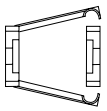
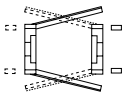
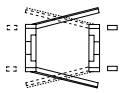
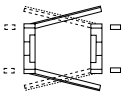
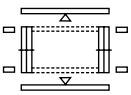
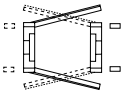
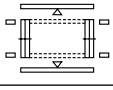
Other Length Restrictions

Type	Vertial standing (Max) A	Vertical Hanging (Max) B	Side Mounted Unsupported (Max) C
ST 044N	2.0m	40m	1.0m
ST 055N	3.0m	50m	1.0m
ST 072N	6.0m	100m	2.5m
ST 095N	6.0m	100m	3.0m
ST 120N	6.0m	120m	3.0m
ST 150N	7.0m	150m	4.0m



How to Choose Bending Radius

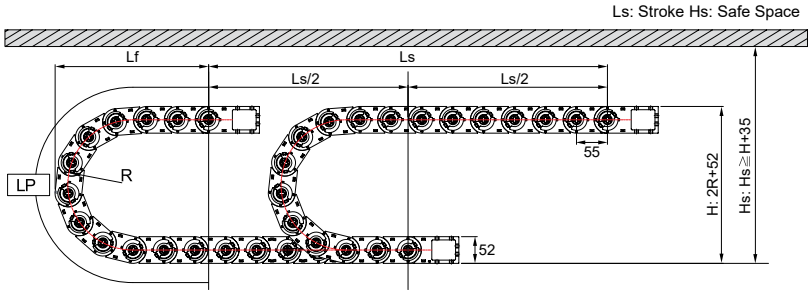
Bending Radius	The biggest Cable inserted	Multiply 8~10 by the OD of the biggest cable
	The biggest Hydraulic Hose inserted	Multiply 15~20 by the OD of the biggest hose

① Pitch (mm)	② Inner Width	③ Bend-ing Radius	Size (Unit : mm) A	B	C	D	Frame type	Weight (kg/m)
044	35 50 55 75 100 125 150 175 200	50 70 90 120 150	56 71 76 96 121 146 171 196 221	38	35 50 55 75 100 125 150 175 200	26		0.93 0.97 1.00 1.06 1.17 1.30 1.43 1.78 1.94
055	35 50 55 75 100 125 150 175 200	65 75 100 125 150 200	56 71 76 96 121 146 171 196 221	52	35 50 55 75 100 125 150 175 200	40		1.12 1.15 1.18 1.23 1.31 1.41 1.51 1.78 1.92
072	50 75 100 125 140 150 175 200 250 300	72 100 120 145 200 250 300	82 107 132 157 172 182 197 207 222 232 272 282 332	66	50 75 100 125 140 150 165 175 190 200 240 250 300	45		2.10 2.20 2.30 2.43 2.51 2.56 2.62 2.66 2.93 3.11 3.21 3.24 3.60
095	75 100 125 150 175 190 200 250 300 350 400	135 150 200 230 280 400	113 138 163 188 213 228 238 278 288 338 388 438	82	75 100 125 150 175 190 200 240 250 300 350 400	56		3.11 3.17 3.37 3.49 3.60 3.71 3.79 4.00 4.05 4.31 4.69 5.05
120	75 100 125 150 175 200 250 300 350 400 450 500 550 600	180 200 250 300 350 400 500	117 142 157 167 192 217 242 282 292 332 342 392 442 492 542 592 642	108	75 100 115 125 150 175 200 240 250 290 300 350 400 450 500 550 600	78	 	4.41 4.53 4.61 4.67 4.78 4.93 5.17 5.41 5.47 5.80 5.88 6.30 6.73 7.07 7.30 8.13 8.30
150	75 100 125 150 175 200 250 300 350 400 450 500 550 600	205 305 405 505 605	121 146 161 171 196 221 246 286 296 336 346 396 446 496 546 596 646	140	75 100 115 125 150 175 200 240 250 290 300 350 400 450 500 550 600	110	 	5.85 5.96 6.03 6.08 6.18 6.30 6.51 6.72 6.78 7.06 7.14 7.51 7.88 8.18 8.37 9.11 9.26

See page 65 - 66 for accessories

ST 044N

Calculation of the chain length



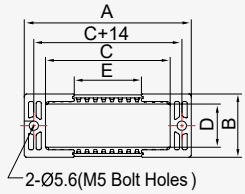
$$[\quad L \quad = \quad \frac{Ls}{2} \quad + \quad Lp \quad]$$

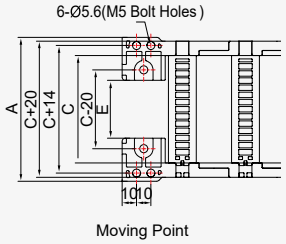
(Unit : mm)

Bending Radius (R)	L p Loop Length	L f Loop Projection	H Moving Height
50	333	157	138
70	396	177	178
90	459	197	218
120	553	227	278
150	648	257	338

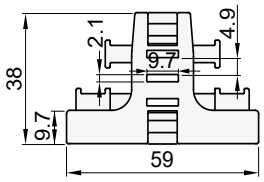
Accessories

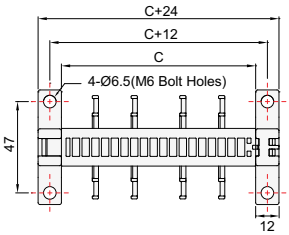
Free end bracket



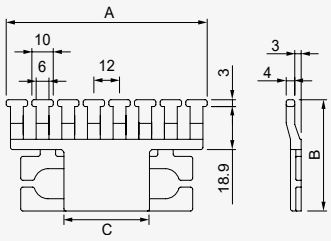


System tie wrap





Tie wrap



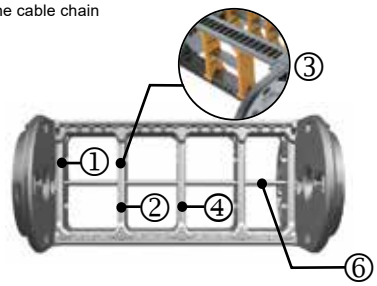
Ordering No.	A Width (Outer)	B Height (Outer)	C Frame (Inner)	D Height (Inner)	E M.EB Bolt hole width
ST-FEB044N/S	60.4 75.4 80.4 100.4 125.4 150.4 175.4 200.4 225.4	38	35 50 55 75 100 125 150 175 200	26	0.4 15.4 20.4 40.4 65.4 90.4 115.4 140.4 165.4

Ordering No.	C Frame	Hole Type
S-TW.EB028.35	35	M6 Bolt Holes
S-TW.EB028.50	50	
S-TW.EB028.55	55	
S-TW.EB028.75	75	
S-TWEB028.100	100	
S-TW.EB028.125	125	
S-TW.EB028.150	150	
S-TW.EB028.175	175	
S-TW.EB028.200	200	

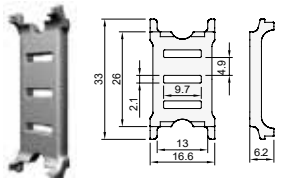
Ordering No.	A	B	C
S-TW036/025CR.35	46	35.4	-
S-TW036/025CR.50	69	48.9	15
S-TW036/025CR.55	70	48.9	20
S-TW036/025CR.75	94	48.9	40
S-TW036/025CR.100	118	48.9	65
S-TW036/025CR.125	142	48.9	90

Dividers

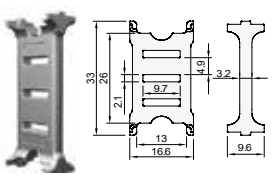
①**S** divider is used to fix a separator that is the same length as the frame
②**M1** divider is used to separate individual cables
③**M2** divider is used to fasten a separator that is shorter than the frame length
④**T** divider can be used at center position to support frame longer than 125mm and up
⑤**W** (Tie wrap) dividers are used to hold the cables in place at both ends of the cable chain



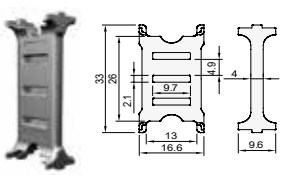
① sb-DV028/S



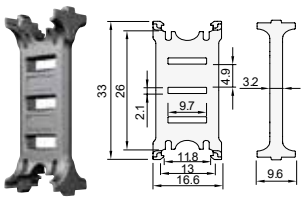
② sb-DV028/M1



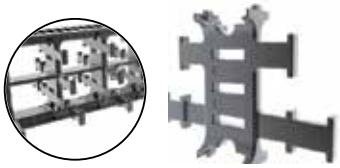
③ sb-DV028/M2



④ sb-DV028/T

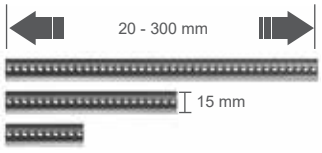


⑤ sb-DV028/W



Tie Wrap Divider

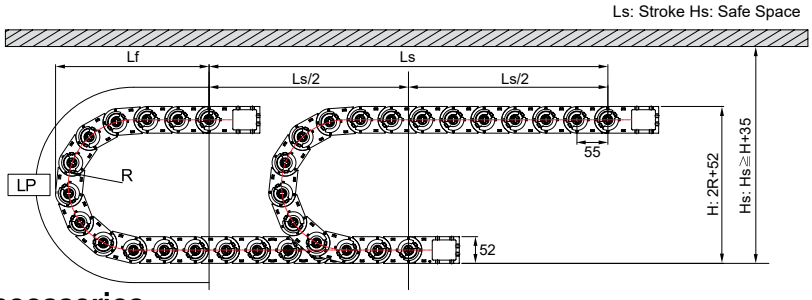
⑥ Separators



Ordering NO.	Frame
S-SP/M.35	35
S-SP/M.50	52
S-SP/M.55	55
S-SP/M.75	75
S-SP/M.100	100
S-SP/M.125	125
S-SP/M.150	150
S-SP/M.175	175
S-SP/M.200	200

ST 055N

Calculation of the chain length



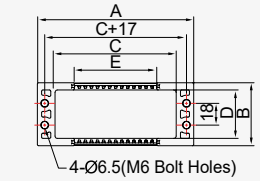
$$[\quad L \quad = \quad \frac{Ls}{2} \quad + \quad Lp \quad]$$

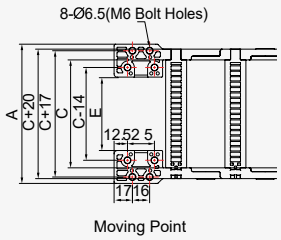
(Unit : mm)

Bending Radius (R)	L p Loop Length	L f Loop Projection	H Moving Height
65	424	201	182
75	456	211	202
100	535	236	252
125	613	261	302
150	692	286	352
200	849	336	452

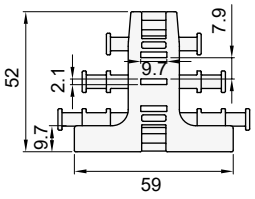
Accessories

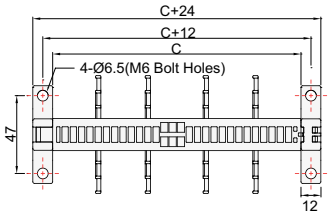
Free end bracket



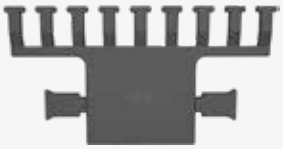


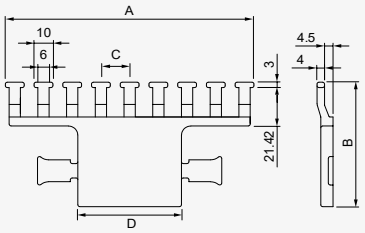
System tie wrap





Tie wrap





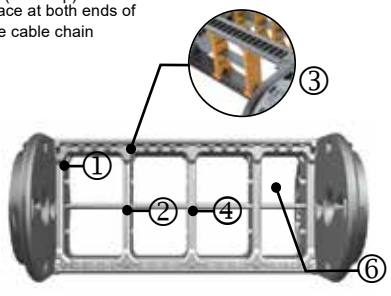
Ordering No.	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	E M.EB Bolt hole width
ST-FEB055N	64 79 84 104 129 154 179 204 229	52	35 50 55 75 100 125 150 175 200	40	3 18 23 43 68 93 118 143 168

Ordering No.	C Frame	Hole Type
S-TW.EB035.35	35	M6 Bolt Holes
S-TW.EB035.50	50	
S-TW.EB035.55	55	
S-TW.EB035.75	75	
S-TW.EB035.100	100	
S-TW.EB035.125	125	
S-TW.EB035.150	150	
S-TW.EB035.175	175	
S-TW.EB035.200	200	

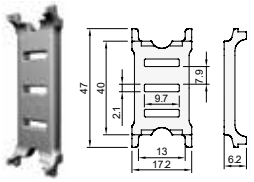
Ordering No.	A	B	C	D
S-TW050/035N.50	82	64.5	12.00	5
S-TW050/035N.55	82		12.00	10
S-TW050/035N.75	107		12.13	30
S-TW050/035N.100	132		15.25	55
S-TW050/035N.125	157		14.70	80
S-TW050/035N.150	182		14.35	105
S-TW050/035N.175	203		12.31	130
S-TW050/035N.200	232		13.88	155

Dividers

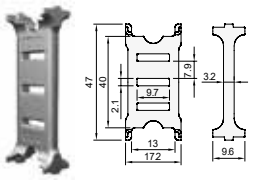
①**S** divider is used to fix a separator that is the same length as the frame
②**M1** divider is used to separate individual cables
③**M2** divider is used to fasten a separator that is shorter than the frame length
④**T** divider can be used at center position to support frame longer than 125mm and up
⑤**W** (Tie wrap) dividers are used to hold the cables in place at both ends of the cable chain



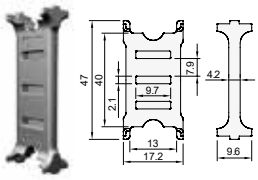
① sb-DV035/S



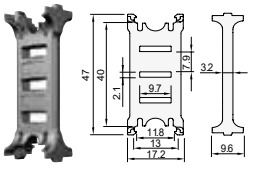
② sb-DV035/M1



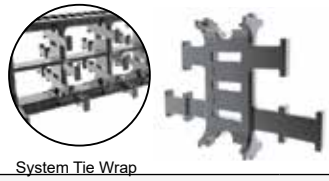
③ sb-DV035/M2



④ sb-DV035/T

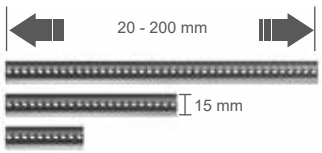


⑤ sb-DV035/W



System Tie Wrap

⑥ Separators

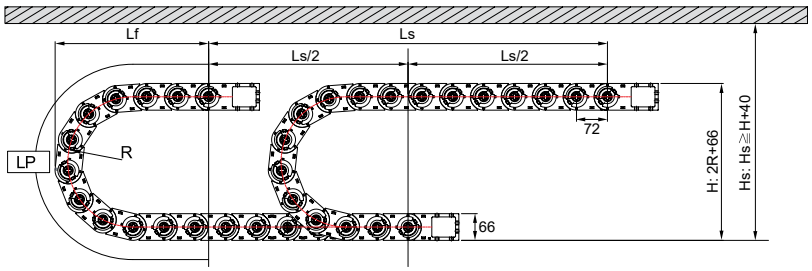


Ordering NO.	Frame
S-SP/M.35	35
S-SP/M.50	50
S-SP/M.55	55
S-SP/M.75	75
S-SP/M.100	100
S-SP/M.125	125
S-SP/M.150	150
S-SP/M.175	175
S-SP/M.200	200

ST 072N

Calculation of the chain length

Ls: Stroke Hs: Safe Space



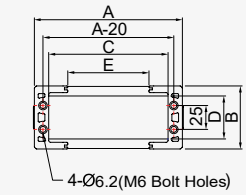
$$[\quad L \quad = \quad \frac{Ls}{2} \quad + \quad Lp \quad]$$

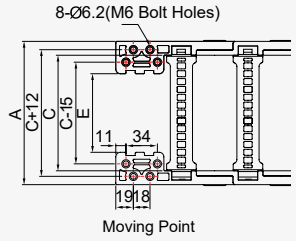
(Unit : mm)

Bending Radius (R)	L p Loop Length	L f Loop Projection	H Moving Height
72	514	249	210
100	603	277	266
120	665	297	306
145	743	322	356
200	916	377	466
250	1,074	427	566
300	1,230	477	666

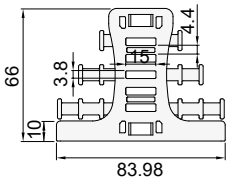
Accessories

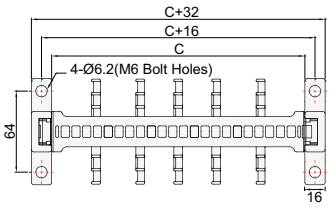
Free end bracket



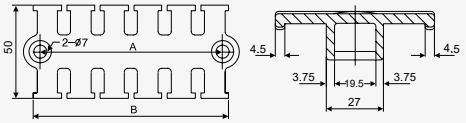


System tie wrap





Tie wrap



Ordering No.	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	E M.EB Bolt hole width
ST-FEB072N/S	82 107 132 157 172 182 197 207 222 232 272 282 332	66	50 75 100 125 140 150 175 200 250 300	45	10 35 60 85 100 110 125 135 150 160 200 210 260

Ordering No.	C Frame	Hole Type
S-TW.EB045.50	50	M6 Bolt Holes
S-TW.EB045.75	75	
S-TW.EB045.100	100	
S-TW.EB045.125	125	
S-TW.EB045.140	140	
S-TW.EB045.150	150	
S-TW.EB045.165	165	
S-TW.EB045.175	175	
S-TW.EB045.190	190	
S-TW.EB045.200	200	
S-TW.EB045.240	240	
S-TW.EB045.250	250	
S-TW.EB045.300	300	

Ordering No.	A	B
S-TW50	58	65
S-TW75	75	82
S-TW100	98	105
S-TW125	122	129
S-TW150	141	148

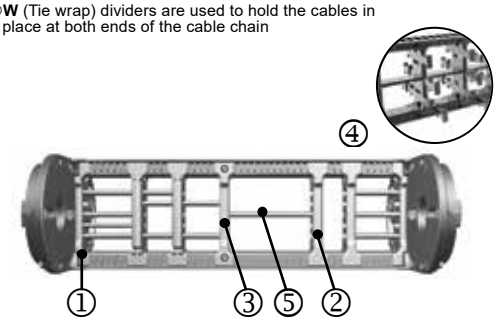
Dividers

①**S** divider is used to fix a separator that is the same length as the frame

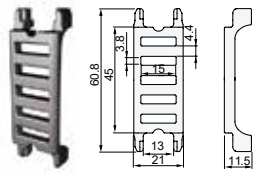
②**M** divider is used to separate individual cables

④**T** divider can be used at center position to support frame longer than 200mm and up

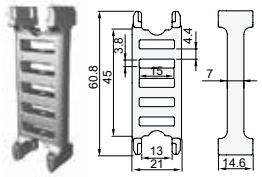
⑤**W** (Tie wrap) dividers are used to hold the cables in place at both ends of the cable chain



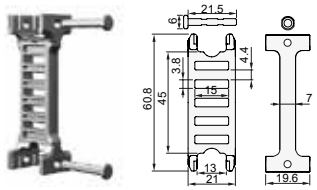
① sb-DV045/S



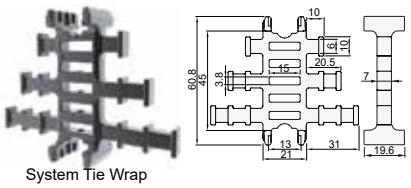
② sb-DV045/M



③ sb-DV045/T

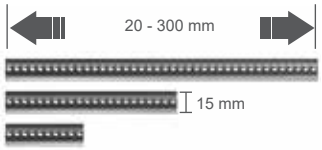


④ sb-DV045/W



System Tie Wrap

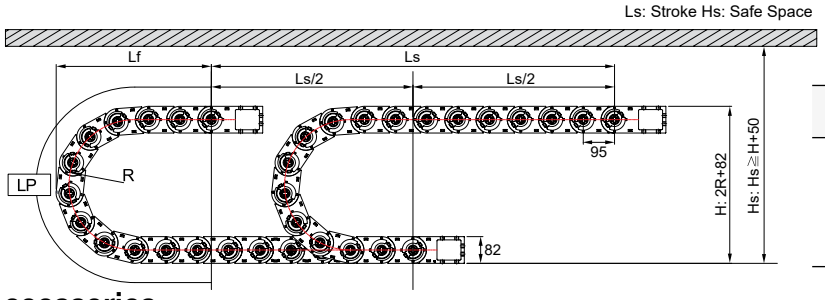
Separators



Ordering NO.
sb-SP/400.400 Cut to length (400 mm)

ST 095N

Calculation of the chain length



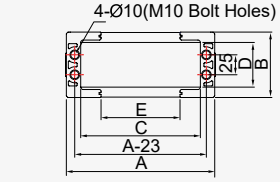
$$[\quad L = \frac{Ls}{2} + Lp \quad]$$

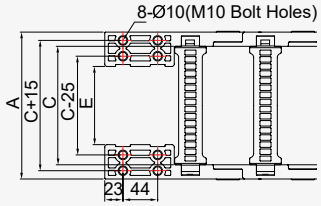
(Unit : mm)

Bending Radius (R)	L p Loop Length	L f Loop Projection	H Moving Height
135	805	364	352
150	855	374	382
200	1,010	428	482
230	1,110	459	542
280	1,260	505	642
400	1,640	629	882

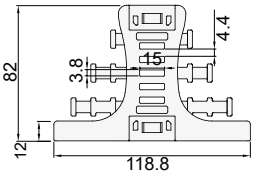
Accessories

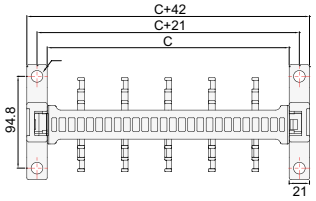
Free end bracket



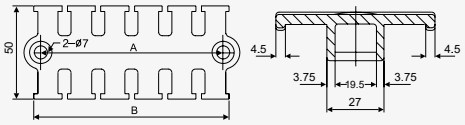


System tie wrap





Tie wrap



Ordering No.	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	E M.EB Bolt hole width
ST-FEB095N/S	113 138 163 188 213 228 238 268 278 288 338 388 438	82	75 100 125 150 175 200 250 300 350 400	56	24 49 74 99 124 139 149 179 189 199 249 299 349

Ordering No.	C Frame	Hole Type
S-TW.EB060.75	75	M10 Bolt Holes
S-TW.EB060.100	100	
S-TW.EB060.125	125	
S-TW.EB060.150	150	
S-TW.EB060.175	175	
S-TW.EB060.190	190	
S-TW.EB060.200	200	
S-TW.EB060.230	230	
S-TW.EB060.240	240	
S-TW.EB060.250	250	
S-TW.EB060.300	300	
S-TW.EB060.350	350	
S-TW.EB060.400	400	

Ordering No.	A	B
S-TW50	58	65
S-TW75	75	82
S-TW100	98	105
S-TW125	122	129
S-TW150	141	148

Dividers

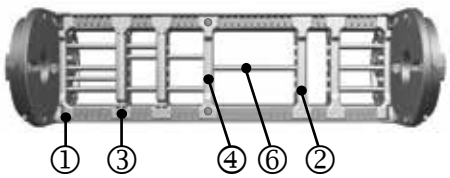
①**S** divider is used to fix a separator that is the same length as the frame

② **M** divider is used to separate individual cables

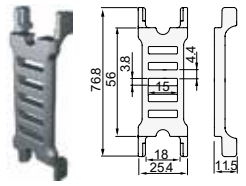
③**R** Side position roller divider to protect abrasion of moving cable at inner side of chain

④**T** divider can be used at center position to support frame longer than 200mm and up

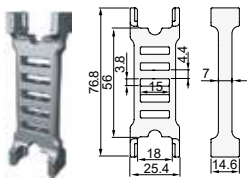
⑤ **W** (Tie wrap) dividers are used to hold the cables in place at both ends of the cable chain



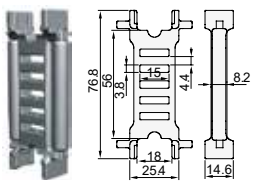
① sb-DV060/S



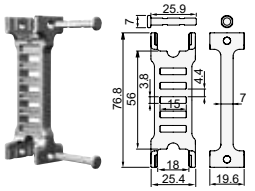
② sb-DV060/M



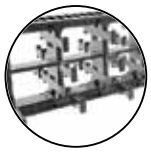
③ sb-DV060/R



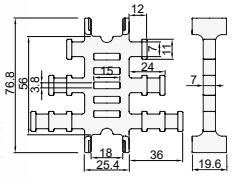
④ sb-DV060/T



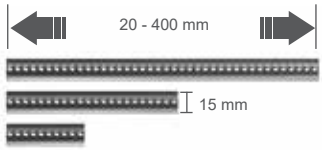
⑤ sb-DV060/W



System Tie Wrap



⑥ Separators

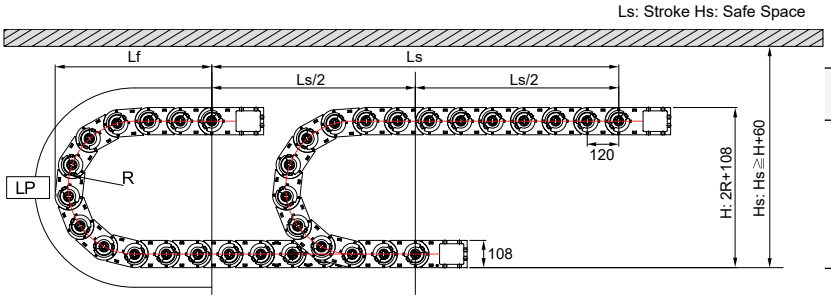


Ordering NO.

sb-SP/400.400
Cut to length (400 mm)

ST 120N

Calculation of the chain length



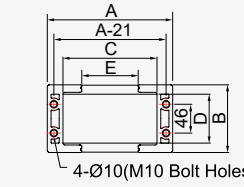
$$[\quad L = \frac{Ls}{2} + Lp \quad]$$

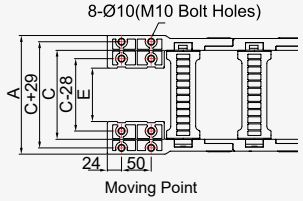
(Unit : mm)

Bending Radius (R)	L p Loop Length	L f Loop Projection	H Moving Height
180	1,046	474	468
200	1,109	494	508
250	1,266	544	608
300	1,423	594	708
350	1,580	644	808
400	1,737	694	908
500	2,051	794	1,108

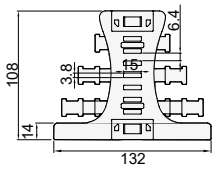
Accessories

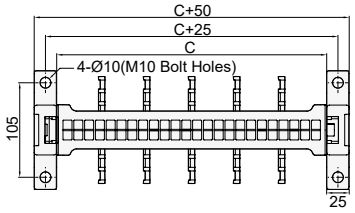
Free end bracket



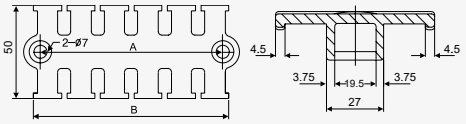


System tie wrap





Tie wrap



Ordering No.	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	E M.EB Bolt hole width
ST-FEB120N/S	125 150 165 175 200 225 250 290 300 340 350 400 450 500 550 600 650	108	75 100 125 150 175 200 250 300 350 400 450 500 550 600	78	15 40 55 65 90 115 140 180 190 230 240 290 340 390 440 490 540

Ordering No.	C Frame
S-TW.EB075.75	75
S-TW.EB075.100	100
S-TW.EB075.115	115
S-TW.EB075.125	125
S-TW.EB075.150	150
S-TW.EB075.175	175
S-TW.EB075.200	200
S-TW.EB075.240	240
S-TW.EB075.250	250
S-TW.EB075.290	290
S-TW.EB075.300	300
S-TW.EB075.350	350
S-TW.EB075.400	400
S-TW.EB075.450	450
S-TW.EB075.500	500
S-TW.EB075.550	550
S-TW.EB075.600	600

Hole Type: M10 Bolt Holes

Ordering No.	A	B
S-TW50	58	65
S-TW75	75	82
S-TW100	98	105
S-TW125	122	129
S-TW150	141	148

Dividers

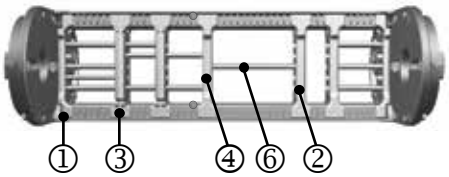
①**S** divider is used to fix a separator that is the same length as the frame

②**M1** divider is used to separate individual cables

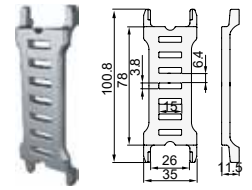
③**R** Side position roller divider to protect abrasion of moving cable at inner side of chain

④**T** divider can be used at center position to support frame longer than 300mm and up

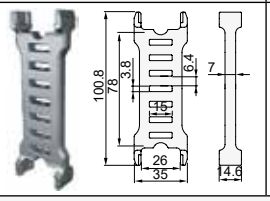
⑤**W** (Tie wrap) dividers are used to hold the cables in place at both ends of the cable chain



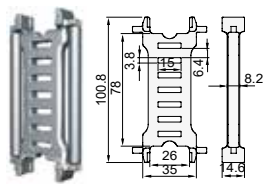
① sb-DV075 /S



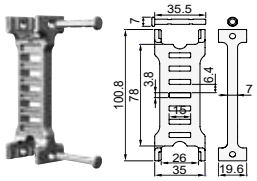
② sb-DV075/M



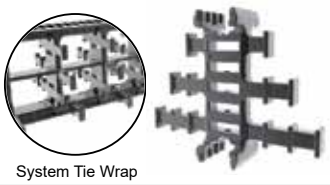
③ sb-DV075/R

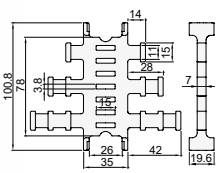


④ sb-DV075/T

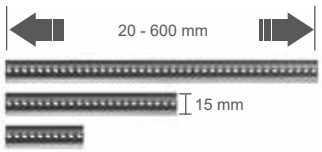


⑤ sb-DV075/W





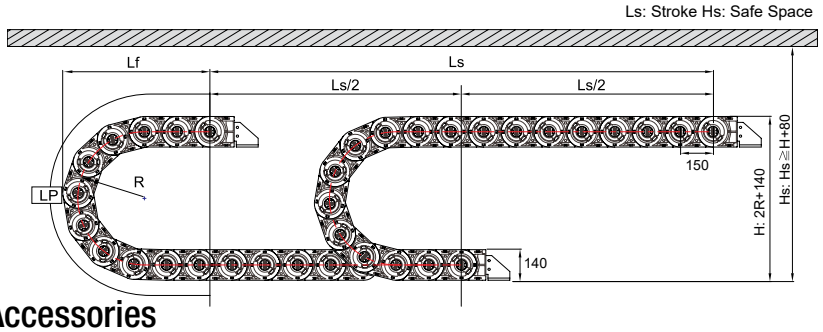
⑥Separators



Ordering NO.
sb-SP/600.600 Cut to length (600 mm)

ST 150N

Calculation of the chain length



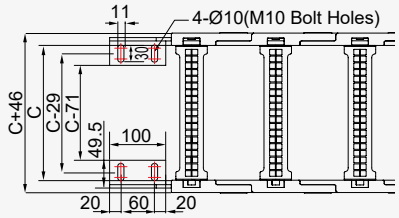
$$[\quad L \quad = \quad \frac{Ls}{2} \quad + \quad Lp \quad]$$

(Unit : mm)

Bending Radius (R)	L p Loop Length	L f Loop Projection	H Moving Height
205	1,215	561	550
305	1,510	651	750
405	1,807	743	950
505	2,106	835	1,150
605	2,405	928	1,350

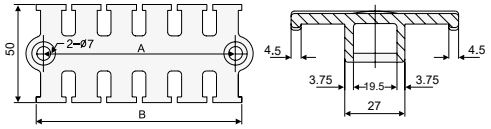
Accessories

Steel end bracket



Moving Point

Tie wrap



Ordering No.	B Height (Outer)	C Frame	D Height (Inner)
ST-SEB150N	140	75 100 125 150 175 200 250 300 350 400 450 500 550 600	110

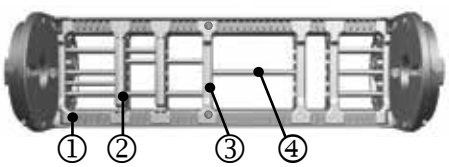
Ordering No.	A	B
S-TW50	58	65
S-TW75	75	82
S-TW100	98	105
S-TW125	122	129
S-TW150	141	148

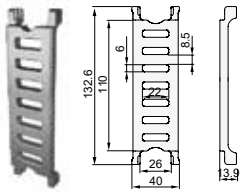
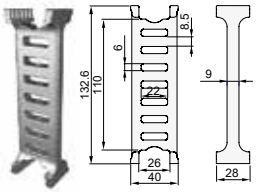
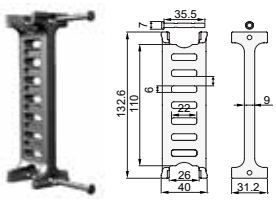
Dividers

①**S** divider is used to fix a separator that is the same length as the frame

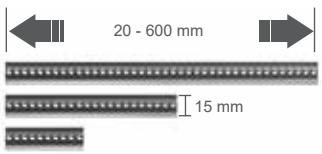
②**M** divider is used to separate individual cables

③**T** divider can be used at center position to support frame longer than 300mm and up



① sb-DV/S100/S	② sb-DV100/M	③ sb-DV100/T
		

⊕ Separators



Ordering NO
sb-SP/600.600 Cut to length (600 mm)